

Montana Department of Natural Resources and Conservation  
Water Resources Division  
Water Rights Bureau

**ENVIRONMENTAL ASSESSMENT**  
**For Routine Actions with Limited Environmental Impact**

**Part I. Proposed Action Description**

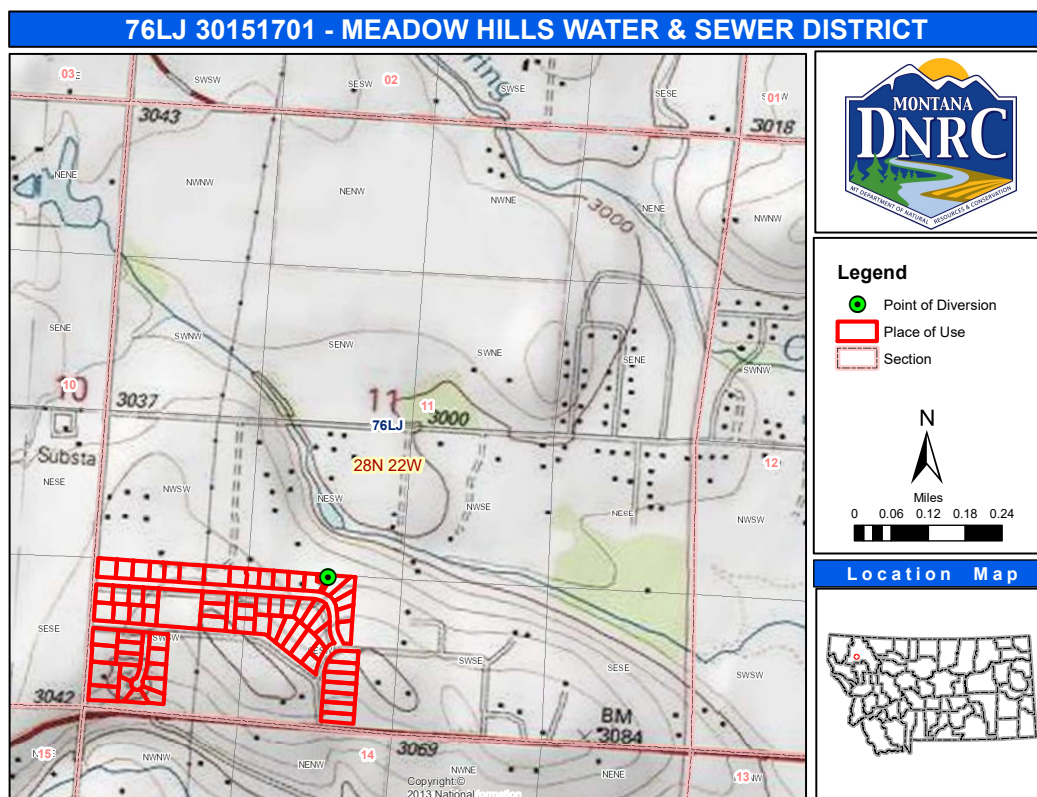
1. **Applicant/Contact names and addresses:**

Meadow Hills Water & Sewer District  
PO Box 8112  
Kalispell, MT 59904-1112

2. **Type of action:** Groundwater Application for Beneficial Water Use Permit 76LJ 30151701

3. **Water source name:** Groundwater – Flathead Deep Aquifer

4. **Location affected by project:** Meadow Hills and Meadow Hills Unit 2 subdivisions, S2SW Section 11, Township 28N, Range 22W, Flathead County, Montana.



**Figure 1.** Map of the proposed place of use and point of diversion.

**5. Narrative summary of the proposed project, purpose, action to be taken, and benefits:**

The Applicant proposes to divert groundwater at 90.0 GPM up to 83.06 AF annually by means of a single production well, Well #2 (GWIC ID: 309196), from January 1 – December 31 for multiple domestic use and from April 15 – October 15 for lawn and garden irrigation. The applicant proposes 26.66 AF of water to supply the multiple domestic use for 68 residential lots, and 56.40 AF of water to irrigate 26.69 acres of lawn and garden area.

This application seeks to permit water use from Well #2 of the Meadow Hills and Meadow Hills Unit 2 subdivisions (collectively referred to as Meadow Hills). Meadow Hills Water & Sewer District owns two wells, referred to as Well #1 and Well #2. Well #1 (GWIC ID: 82796) currently supplies the subdivision with up to 105.0 AF of water at 90.0 GPM under groundwater certificate 76LJ 41595-00. Groundwater certificate 76LJ 41595-00 was filed in 1981 before the current flow and volume limits (35.0 GPM and 10.0 AF, respectively) and the strict requirement that water already be put to beneficial use prior to filing the notice of completion of groundwater development Form 602.

Well #2 will be redundant in operation to Well #1. Each well will divert the full 90.0 GPM flow rate and will operate on an alternating schedule to meet demands and to refill a 28,000-gallon storage tank. The Well #1 groundwater certificate (76LJ 41595-00) will be reduced to match the volume requested in this permit prior to issuance of the Well #2 provisional permit. The total volume appropriated between the two water rights will not exceed the total subdivision demand of 83.06 AF.

The point of diversion (POD) is located in Meadow Hills subdivision Lot 47 in the NESESW Section 11, Township 28N, Range 22W, Flathead County, Montana (Figure 1). The place of use is the Meadow Hills and Meadow Hills Unit 2 subdivisions in the S2SW Section 11, Township 28N, Range 22W, Flathead County, Montana (Figure 1). The POD is in the Upper Flathead River Basin (76LJ) in an area that is not subject to water right basin closures or controlled groundwater area restrictions.

The DNRC shall issue a water use permit if the applicants prove the criteria in 85-2-311 MCA are met.

**6. Agencies consulted during preparation of the Environmental Assessment:**

- U.S. Fish and Wildlife Service (USFWS): National Wetlands Inventory Wetlands Mapper
- Montana Natural Heritage Program: Endangered, Threatened Species, and Species of Special Concern
- Montana Department of Fish Wildlife & Parks (DFWP): Dewatered Stream Information
- Montana Department of Environmental Quality (MDEQ): Clean Water Act Information Center
- U.S. Natural Resource Conservation Service (NRCS): Web Soil Survey

## **Part II. Environmental Review**

### **1. Environmental Impact Checklist:**

<h2><b>PHYSICAL ENVIRONMENT</b></h2>
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### **WATER QUANTITY, QUALITY AND DISTRIBUTION**

**Water quantity** - *Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.*

The Applicant plans to divert water from the Flathead Deep Aquifer. The groundwater levels in the Deep Aquifer are effectively controlled by the stage of the Flathead River and Flathead Lake due to these sources being hydraulically connected to the Deep Aquifer. The Department also identified a reach of the lower Stillwater River in proximity to the proposed appropriation as being hydraulically connected to the Deep Aquifer and thus potentially depleted by this water use. The mainstem of the Flathead River, Flathead Lake, and the Stillwater River are not included on the DFWP list of chronically or periodically dewatered streams.

*Determination:* No significant impact.

**Water quality** - *Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.*

The Department assessed the water quality status of the three surface water sources that were identified as hydraulically connected to this application's source of groundwater supply:

- i. The Flathead River;
- ii. Flathead Lake; and,
- iii. The Stillwater River.

**Flathead River:** MDEQ Clean Water Act Information Center's 2020 Water Quality Information report lists the Flathead River (from the Headwaters to Flathead Lake) as:

- i. Water Quality Category 3: Waters for which there is insufficient data to assess the use-support of any applicable beneficial use; no use-support determinations have been made; and,
- ii. Use Class B-1: Waters classified as suitable for drinking, culinary, and food processing purposes after conventional treatment; bathing, swimming and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

**Flathead Lake:** MDEQ Clean Water Act Information Center's 2020 Water Quality Information report lists Flathead Lake as:

- i. Water Quality Category 5: Waters where one or more applicable beneficial uses are impaired or threatened, and a TMDL is required to address the factors causing the impairment or threat; and,
- ii. Use Class A-1: Waters classified as suitable for drinking, culinary, and food processing purposes after conventional treatment for removal of naturally present impurities.

Flathead Lake is fully supporting for drinking water, primary contact recreation, and agricultural beneficial uses. Flathead Lake is not fully supporting for aquatic life most probably due to Mercury, Total Nitrogen, Total Phosphorus, and Polychlorinated Biphenyl (PCB) levels. Total Maximum Daily Load (TMDL) documents have been completed for the Total Nitrogen and Total Phosphorus pollutants.

Stillwater River: MDEQ Clean Water Act Information Center's 2020 Water Quality Information report lists the Stillwater River (from Logan Creek to the mouth) as:

- i. Water Quality Category 4A: All TMDLs needed to rectify all identified threats or impairments have been completed and approved; and,
- ii. Use Class B-2: Waters classified as suitable for drinking, culinary, and food processing purposes after conventional treatment; bathing, swimming and recreation; growth and marginal propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

The Stillwater River is fully supporting for drinking water, primary contact recreation, and agricultural beneficial uses. The Stillwater River is not fully supporting for aquatic life most probably due to alteration in stream-side or littoral vegetative covers, and sedimentation-siltation. A TMDL document has been completed for the sedimentation-siltation pollutant A TMDL is not applicable to the alteration in stream-side or littoral vegetative covers impairment cause.

The potential surface water depletions that may result from the proposed project will not significantly affect water quality in these sources.

*Determination:* No significant impact.

**Groundwater** - *Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.*

The Applicant will divert groundwater from the Flathead Deep Aquifer at a rate of 90.0 GPM. The well is completed to 184 feet below ground surface. A Department analysis of Applicant supplied data from a 72-hour aquifer test concluded that there is a sufficient supply of groundwater in the source aquifer and the hydraulically connected surface water sources to satisfy the proposed appropriation.

The aquifer is hydraulically connected to the Flathead River downstream of Columbia Falls, Flathead Lake, and the Stillwater River downstream of the northern boundary of Section 6, Township 28N, Range 21W to the confluence with the Flathead River. Physical and legal availability and adverse effect analyses of these sources were performed. The Department concluded that surface water quality and the physical/legal supply would not be adversely affected by the proposed groundwater appropriation.

*Determination: No significant impact.*

**DIVERSION WORKS** - *Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.*

The existing Meadow Hills water system is listed as a public water supply (PWS ID: MT0002925) with the Montana Department of Environmental Quality (DEQ). The system consists of:

- i. Existing well: Well #1 (GWIC ID: 82796; completed April 20, 1978 in the Deep Aquifer), equipped with a Franklin Electric 7.5-hp Model 75FA7S6-PE submersible pump and a Franklin Electric Model 2366018120 3-phase motor;
- ii. Proposed well: Well #2 (GWIC ID: 309196; completed August 5, 2020 in the Deep Aquifer);
- iii. A partially buried, poured concrete 28,000-gallon storage tank;
- iv. Two lead-lag Square D variable frequency drive (VFD) controlled centrifugal booster pumps (a 15-hp lead and 10-hp lag);
- v. Pump house;
- vi. 11 pressure-switch regulated captive-air pressure tanks;
- vii. Approximately 7,000 lineal feet of looped PVC distribution piping; and,
- viii. Flush hydrants.

Water is currently diverted from Well #1 to the 28,000-gallon storage tank. The Well #1 pump is regulated via a pressure transducer in the storage tank. When the water level in the tank falls below a pre-set elevation, the well pump turns on to refill the tank. From the tank, water is conveyed via the booster pumps to the 11 captive-air pressure tanks in the pump house for distribution into the system. The booster pumps and the pressure tanks operate to maintain system pressure, regulate pump run times, and satisfy periods of peak water demands. Well #1 can also bypass the storage tank and booster pumps to supply water directly to the captive-air tanks using only the submersible pump if needed.

Well #2 was completed to a depth of 184-feet bgs in a confined alluvial aquifer known as the Flathead Deep Aquifer by Oh Well Drilling and Pump, a Montana licensed Water Well Contractor. The proposed well was evaluated with a 72-hour aquifer test performed at 90 GPM. The test saw a maximum drawdown of 4.24 feet below the static water level (swl) of 137.11 feet below top of casing (btc), leaving 42.7 feet above the well's bottom. The flow rate for the aquifer test equaled the requested maximum flow rate.

Well #2 will be plumbed into the existing system and operated in a similar manner to Well #1. The two wells will operate on an alternating schedule to refill the storage tank. Based on the results of the 72-hour aquifer test, Well #2 will be equipped with a Franklin Electric 7.5-hp Model 100FA7S6-PE submersible pump (or equivalent alternative). The applicant-provided system specifications and pump performance curve demonstrate that the pump will produce 90.0 GPM at a total dynamic head (TDH) of 231 feet, based on:

- i. Operating pressure of 16 pounds per square inch (psi) (equal to 36.96 feet);

- ii. Elevation lift of 141 feet; and,
- iii. Friction losses of 53.5 feet in the 180-feet of 2-inch drop and conveyance pipe from the well to the storage tank.

The system currently employs hour meters to monitor pump run times for the Well #1 submersible pump and the booster pumps. A similar meter will be installed for the Well #2 submersible pump. Annual readings will be recorded and used to calculate the total water use by the Applicant. Discharge from the system occurs as return flows from lawn and garden irrigation and from the individual septic drain fields.

Based on the results of the 72-hour constant-rate aquifer test, a TDH of 231 feet, and the applicant-provided pump performance and system specifications, the Department finds that the diversion and conveyance system is adequate to supply the requested annual volume of 83.06 AF at a flow rate 90.0 GPM.

This project will not create any channel impacts, flow modifications, barriers, dams, or riparian impacts to any connected surface waters. A drawdown analysis for this application showed that surrounding wells will still have sufficient water column from which to draw water from the aquifer and will thus not be adversely affected.

*Determination:* No significant impact.

#### **UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES**

**Endangered and threatened species** - Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants, aquatic species, or any “species of special concern,” or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or “species of special concern.”

The Montana Natural Heritage Program website was reviewed to determine if there are any threatened or endangered fish, wildlife, plants, aquatic species, or any “species of special concern” in Township 28N, Range 22W that could be impacted by the proposed project. 11 animal and two plant species of concern (Tables 1 and 2, respectively) were identified within the township and range where the project is located. Of these species, only the Grizzly Bear (*Ursus arctos*) is listed as threatened by the USFWS. This area is already developed; it is not anticipated that any species of concern will be further impacted by the proposed project.

<b>Table 1. Animal Species of Concern</b>			
Black Tern ( <i>Chlidonias niger</i> )	American Bittern ( <i>Botaurus lentiginosus</i> )	Long-eared Myotis ( <i>Myotis evotis</i> )	Hoary Bat ( <i>Lasiurus cinereus</i> )
Clark's Nutcracker ( <i>Nucifraga columbiana</i> )	Northern Leopard Frog ( <i>Lithobates pipiens</i> )	Northern Alligator Lizard ( <i>Elgaria coerulea</i> )	Little Brown Myotis ( <i>Myotis lucifugus</i> )
Fisher ( <i>Pekania pennanti</i> )	Great Blue Heron ( <i>Ardea herodias</i> )	Grizzly Bear ( <i>Ursus arctos</i> )	

Table 2. Plant Species of Concern	
Geyer's Onion ( <i>Allium geyeri</i> var. <i>geyeri</i> )	Sweetflag ( <i>Acorus americanus</i> )

*Determination:* No significant impact.

**Wetlands** - Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.

*Determination:* N/A, project does not involve wetlands.

**Ponds** - For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.

*Determination:* N/A, project does not involve ponds.

**GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE** - Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.

The proposed 26.69 acres of lawn and garden irrigation are already developed and irrigated by the existing well/water right. This application is to permit a new well only; there will be no increase in the flow or volume of water currently diverted from the aquifer and applied to the irrigated areas. The new water right will not have a negative impact on the soil quality, stability, or moisture content. The soils in the project area are presented in Table 3. Soils in this area are not likely susceptible to saline seep.

Table 3. Soils			
Soil Unit Description	Parent Material	Capacity to Transmit Water	Salinity
Prospect loam, 3 to 7 percent slopes	Glacial till	Moderately high to high	Nonsaline to very slightly saline
Prospect loam, 7 to 12 percent slopes	Glacial till	Moderately high to high	Nonsaline to very slightly saline
Prospect loam, 12 to 20 percent slopes	Glacial till	Moderately high to high	Nonsaline to very slightly saline
Prospect stony loam, 12 to 20 percent slopes	Glacial till	Moderately high to high	Nonsaline to very slightly saline

*Determination:* No significant impact.

**VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS** - Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.

This area is already developed, and any existing native vegetation has already been disturbed. It is not anticipated that issuance of a water use permit will contribute to the establishment or

spread of noxious weeds in the project area. Noxious weed prevention and control will be the responsibility of the landowners, who must follow local noxious weed regulations.

*Determination:* No significant impact.

**AIR QUALITY** - *Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.*

There will be no impact to air quality associated with issuance of the proposed permit for beneficial use of surface water.

*Determination:* No significant impact.

**HISTORICAL AND ARCHEOLOGICAL SITES** - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project if it is on State or Federal Lands. If it is not on State or Federal Lands simply state NA-project not located on State or Federal Lands.*

*Determination:* N/A, project not located on State or Federal Lands.

**DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY** - *Assess any other impacts on environmental resources of land, water, and energy not already addressed.*

All impacts to land, water, and energy have been identified and no further impacts are anticipated.

*Determination:* No significant impact.

## HUMAN ENVIRONMENT

**LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS** - *Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.*

The project is consistent with planned land uses.

*Determination:* No significant impact.

**ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES** - *Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.*

The proposed project will not inhibit, alter, or impair access to present recreational opportunities in the area. The project is not expected to create any significant pollution, noise, or traffic congestion in the area that may alter the quality of recreational opportunities. The proposed place of use and diversion do not exist on land designated as wilderness.

*Determination:* No significant impact.



**HUMAN HEALTH** - *Assess whether the proposed project impacts human health.*

No negative impact on human health is anticipated from this proposed use.

*Determination:* No significant impact.

**PRIVATE PROPERTY** - *Assess whether there are any government regulatory impacts on private property rights.*

Yes\_\_\_ No X If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.

*Determination:* No impact.

**OTHER HUMAN ENVIRONMENTAL ISSUES** - *For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.*

*Impacts on:*

- (a) Cultural uniqueness and diversity? None identified.
- (b) Local and state tax base and tax revenues? None identified.
- (c) Existing land uses? None identified.
- (d) Quantity and distribution of employment? None identified.
- (e) Distribution and density of population and housing? None identified.
- (f) Demands for government services? None identified.
- (g) Industrial and commercial activity? None identified.
- (h) Utilities? None identified.
- (i) Transportation? None identified.
- (j) Safety? None identified.
- (k) Other appropriate social and economic circumstances? None identified.

**2. *Secondary and cumulative impacts on the physical environment and human population:***

Secondary Impacts: None identified.

Cumulative Impacts: None identified.

**3. *Describe any mitigation/stipulation measures:***

None.

4. ***Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:***

The only alternative to the proposed action would be the no action alternative. The no action alternative would not authorize the diversion of groundwater.

### **Part III. Conclusion**

1. ***Preferred Alternative***

Issue a water use permit if the Applicants prove the criteria in 85-2-311 MCA are met.

2. ***Comments and Responses***

None.

3. ***Finding:***

Yes\_\_\_ No\_X Based on the significance criteria evaluated in this EA, is an EIS required?

*If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action:*

No significant impacts related to the proposed project have been identified.

*Name of person(s) responsible for preparation of EA:*

*Name:* Travis Wilson

*Title:* Water Resource Specialist

*Date:* December 21, 2021